

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF NORTH CAROLINA  
EASTERN DIVISION  
No. 7:23-cv-00897**

**IN RE: CAMP LEJEUNE TOXIC WATER  
LITIGATION**

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**This Pleading Relates to:**

*McElhiney v. United States*, 7:23-cv-1368  
*Peterson v. United States*, 7:23-cv-1576  
*Rothchild v. United States*, 7:23-cv-858  
*Sparks v. United States*, 7:23-cv-682  
*Welch v. United States*, 7:23-cv-1503

**PLG’S RESPONSE TO DEFENDANT’S  
STATEMENT OF MATERIAL FACTS IN  
SUPPORT OF THE UNITED STATES’  
MOTION FOR SUMMARY JUDGMENT  
ON THE CAUSAL LINK BETWEEN  
PERCHLOROETHYLENE (PCE) AND  
PARKINSON’S DISEASE**

**A. Legislative, Factual, and Procedural History**

1. The Camp Lejeune Justice Act (“CLJA”) was signed into law on August 10, 2022. Pub. L. No. 117-168, § 804, 136 Stat. 1759, 1802-04 (2022).

**PLG RESPONSE TO ¶1:** Undisputed.

2. Under the CLJA, any individual that resided, worked, or was otherwise exposed to water at Marine Corps Base Camp Lejeune (“Base”) in Onslow County, North Carolina for not less than 30 days between August 1, 1953, and December 31, 1987, is permitted to bring a cause of action seeking damages against the United States in the Eastern District of North Carolina. CLJA § 804(b), (d).

**PLG RESPONSE TO ¶2:** Undisputed.

3. In the early 1980s, volatile organic compounds (“VOCs”) were found in two drinking water distribution systems on the Base: Hadnot Point and Tarawa Terrace.

**PLG RESPONSE TO ¶3: Undisputed.**

4. A third water distribution system on the Base, Holcomb Boulevard, began operating in June 1972 and used contaminated water from Hadnot Point for limited periods of time.

**PLG RESPONSE TO ¶4: Undisputed.**

5. The VOCs in the three water distribution systems at issue included perchloroethylene, or PCE; trichloroethylene, or TCE; benzene; trans-1,2- dichloroethylene; and vinyl chloride.

**PLG RESPONSE TO ¶5: Undisputed.**

6. Plaintiffs have filed actions for personal injury and wrongful death related to exposure to contaminated water on Base pursuant to the CLJA.

**PLG RESPONSE TO ¶6: Undisputed.**

7. The litigation began with 100 “Discovery Pool Plaintiffs”—20 Plaintiffs for each of five “Track 1” diseases. D.E. 23 (CMO-2); D.E. 130 (Track 1 Order).

**PLG RESPONSE TO ¶7: Undisputed.**

8. The five Track 1 diseases are bladder cancer, kidney cancer, leukemia, non-Hodgkin’s lymphoma, and Parkinson’s disease (“PD”). D.E. 23 (CMO-2).

**PLG RESPONSE TO ¶8: Undisputed.**

9. The Court sequenced Track 1 litigation into three phases: Phase 1—Water Contamination, Phase 2—General Causation, and Phase 3—Residual Experts (i.e. specific causation). D.E. 270 (Aug. 7, 2024 Pretrial Scheduling Order).

**PLG RESPONSE TO ¶9:** Undisputed.

10. On July 9, 2024, the Court ordered 25 cases for Track 1 Bellwether Trials and stayed the remaining 75 discovery pool cases. D.E. 250 (Trial Order Confirming the Track 1 Trial Plaintiffs).

**PLG RESPONSE TO ¶10:** Undisputed.

11. Pertinent to this Motion and the United States’ concurrently filed motions to exclude, the Court issued a June 5, 2024, order finding that “individuals pursuing actions under the [CLJA] bear the burden of demonstrating their harm was caused by exposure, necessitating they establish both general and specific causation.” *In re Camp Lejeune Water Litig.*, 736 F. Supp. 3d 311, 317 (E.D.N.C. 2024).

**PLG RESPONSE TO ¶11:** Undisputed that the Court issued a June 5, 2024 Order, but the quotation is missing context from the remainder of the order and other orders in this litigation.

12. Therein, the Court found that to prevail on a claim under the CLJA, a Plaintiff must “show their harm was ‘caused by exposure to the water at Camp Lejeune.’” *Id.* at 319.

**PLG RESPONSE TO ¶12:** Undisputed that the Court issued a June 5, 2024 Order, but the quotation is missing context from the remainder of the order and other orders in this litigation.

13. It further stated that “[o]rdinarily, toxic exposure torts proceed in two steps—an expert demonstrates that a particular type of harm can be caused by the exposure to a degree of scientific certainty (general causation) and an expert opines that this plaintiff’s exposure was a cause in fact of his or her harm (specific causation).” *Id.*

**PLG RESPONSE TO ¶13:** Undisputed that the Court issued a June 5, 2024 Order, but the quotation is missing context from the remainder of the order and other orders in this litigation.

**B. Plaintiffs’ General Causation Expert Reports Regarding PD**

14. On December 9, 2024, Plaintiffs disclosed seven Phase II (General Causation) expert reports on PD from Drs. Steven Bird, Amelia Boehme, Jason Cannon, Lucio Costa, Briana De Miranda, Michael Freeman, and Gary Miller. PLG Phase II Exp. Discl. at 5–6 (JA Ex. 63, D.E. 463-2).

**PLG RESPONSE TO ¶14:** Undisputed.

15. Dr. Bird, an emergency medicine physician, opined that, “[t]he water at Camp Lejeune more likely than not causes Parkinson’s Disease — comfortably exceeding the at least as likely standard set forth by Congress.” Bird GC Rep. (PD) at 10 (JA Ex. 118, D.E. 467-1).

**PLG RESPONSE TO ¶15:** Undisputed that Dr. Bird authored a general causation report, but the quotation is missing context from the remainder of the report.

16. Dr. Bird also authored a supplemental general causation report dated February 5, 2025, in which he discussed that “the Environmental Protection Agency [(‘EPA’)] issued regulations [under the Toxic Substances Control Act (‘TSCA’)] that ban all use of trichloroethylene (TCE) as well as all consumer use and most commercial use of tetrachloroethylene (PCE).” Bird GC Suppl. Rep. at 1 (JA Ex. 137, D.E. 468-3).

**PLG RESPONSE TO ¶16:** Undisputed that Dr. Bird authored a supplemental general causation report, but the quotation is missing context from the remainder of the report.

17. Dr. Boehme, an epidemiologist, opined “[t]hat it is as least likely as not that exposure to the water at Camp Lejeune, contaminated with TCE and PCE, and other volatile

organic compounds, can cause Parkinson's Disease." Boehme Rep. at 22 (JA Ex. 121, D.E. 467-4).

**PLG RESPONSE TO ¶17:** Undisputed that Dr. Boehme authored a general causation report, but the quotation is missing context from the remainder of the report.

18. Dr. Cannon, a neurotoxicologist, opined in his general causation report that "[t]etrachloroethylene (PCE) is at least as likely as not a cause of Parkinson's disease[,]" and that "[P]CE is at least as likely as not a cause of PD relevant neurotoxicity." Cannon Rep. at 17, 30 (JA Ex. 123, D.E. 467-6).

**PLG RESPONSE TO ¶18:** Undisputed that Dr. Cannon authored a general causation report, but the quotation is missing context from the remainder of the report.

19. Dr. Cannon disclosed a supplemental general causation report dated January 2, 2025, discussing EPA's press release and regulation under TSCA of TCE and PCE. Cannon Suppl. Rep. (JA Ex. 124, D.E. 467-7).

**PLG RESPONSE TO ¶19:** Undisputed.

20. Dr. Cannon produced a rebuttal report dated March 15, 2025, responding to the United States' general causation expert, Dr. Julie Goodman. Cannon Rebuttal (JA Ex. 125, D.E. 467-8).

**PLG RESPONSE TO ¶20:** Undisputed.

21. Dr. Costa, a neurotoxicologist, opined that "[t]here is, at least as likely as not, or even more likely than not, a causal relationship between exposure to TCE and PD/Parkinsonism" and "that a causal link between PCE and PD also exists, although based on less evidence." Costa Rep. at 23 (JA Ex. 127, D.E. 467-10).

**PLG RESPONSE TO ¶21:** Undisputed that Dr. Costa authored a general causation report, but the quotation is missing context from the remainder of the report.

22. Dr. De Miranda, a neurotoxicologist, opined that: “[T]CE exposure is more likely than not, known to cause Parkinson’s Disease.” De Miranda Rep. at 2 (JA Ex. 129, D.E. 467-12).

**PLG RESPONSE TO ¶22:** Undisputed that Dr. De Miranda authored a general causation report, but the quotation is missing context from the remainder of the report.

23. Dr. Freeman, an epidemiologist, opined that there was “sufficient evidence for a causal relationship between trichloroethylene exposure and Parkinson’s Disease; Equipoise and above evidence for a causal relationship between tetrachloroethylene exposure and Parkinson’s Disease; Below equipoise evidence for a causal relationship between vinyl chloride exposure and Parkinson’s Disease; and Below equipoise evidence for a causal relationship between benzene exposure and Parkinson’s Disease.” Freeman Rep. (PD) at 40–41 (JA Ex. 131, D.E. 467-14).

**PLG RESPONSE TO ¶23:** Undisputed that Dr. Freeman authored a general causation report, but the quotation is missing context from the remainder of the report.

24. Dr. Miller, a toxicologist, opined that “[T]CE is, more likely than not a cause of Parkinson’s Disease,” and “[P]CE is at least as likely as not to be a cause of Parkinson’s disease.” Miller GC Rep. at 20 (JA Ex. 132, D.E. 467-15).

**PLG RESPONSE TO ¶24:** Undisputed that Dr. Miller authored a general causation report, but the quotation is missing context from the remainder of the report.

25. Plaintiffs disclosed rebuttal reports from Dr. David Savitz, an epidemiologist, and Dr. David Madigan, a statistician. *See* Savitz Rebuttal (JA Ex. 144, D.E. 468-10); Madigan Rebuttal (JA Ex. 142, D.E. 468-8).

**PLG RESPONSE TO ¶25:** Undisputed.

26. Neither Dr. Savitz nor Dr. Madigan opined on the question of general causation and PD. *See* Savitz Rebuttal (JA Ex. 144, D.E. 468-10); Madigan Rebuttal (JA Ex. 142, D.E. 468-8).

**PLG RESPONSE TO ¶26:** Undisputed.

**C. Plaintiffs' Specific Causation Expert Reports Regarding PD**

27. On February 7, 2025, Plaintiffs disclosed three Phase III (Specific Causation) expert reports on the five PD bellwether Plaintiffs. *See generally*, App'x Exhibit 1, Feb. 7, 2025 PLG Phase III Disclosure; PLG Phase III 2d Am. Exp. Discl. at 12– 14 (JA Ex. 326, D.E. 487-2).

**PLG RESPONSE TO ¶27:** Undisputed.

28. Dr. Andruska, a neurologist, opined on general causation of PD, stating that “[i]t is as least as likely as not that exposure to the water at Camp Lejeune, contaminated with PCE and TCE, can cause Parkinson’s Disease.” Andruska Rep. (Rothchild) at 65 (JA Ex. 525, D.E. 502-2).

**PLG RESPONSE TO ¶28:** Dr. Andruska did not independently opine on general causation, and the Plaintiffs are not relying on Dr. Andruska’s opinions for general causation. Defendant’s inaccurate claim is premised on Dr. Andruska’s agreement with Plaintiffs’ general causation experts and independent review of sources underlying and relating to those experts’ opinions.

29. Dr. Andruska opined on specific causation regarding Plaintiff Diane Rothchild’s PD, stating that, “Ms. Rothchild’s exposure to the water at Camp Lejeune is at least as likely as not the cause of her Parkinson’s Disease.” *Id.*

**PLG RESPONSE TO ¶29:** Undisputed that Dr. Andruska authored a specific causation report, but the quotation is missing context from the remainder of the report.

30. Dr. Barbano, a neurologist, opined on general causation of PD, stating that “[TCE and PCE] are at least as likely as not to cause Parkinson’s disease.” Barbano Rep. (McElhiney) at 14 (JA Ex. 528, D.E. 502-5); Barbano Rep. (Peterson) at 14 (JA Ex. 529, D.E. 502-6).

**PLG RESPONSE TO ¶30:** Dr. Barbano did not independently opine on general causation, and the Plaintiffs are not relying on Dr. Barbano’s opinions for general causation. Defendant’s inaccurate claim is premised on Dr. Barbano’s agreement with Plaintiffs’ general causation experts and independent review of sources underlying and relating to those experts’ opinions.

31. Dr. Barbano opined on specific causation, stating there is at least as likely as not “a causal relationship between Mr. McElhiney’s Parkinson’s disease and his exposure to the contaminated water at Camp Lejeune (including TCE and PCE).” Barbano Rep. (McElhiney) at 3 (JA Ex. 528, D.E. 502-5).

**PLG RESPONSE TO ¶31:** Undisputed that Dr. Barbano authored a specific causation report, but the quotation is missing context from the remainder of the report.

32. Dr. Barbano opined that Mr. Peterson’s exposure to the water at Camp Lejeune is “[a]t least as likely as not a cause of his Parkinson’s disease due to his exposure to TCE and PCE, which is the standard set forth in the CLJA.” Barbano Rep. (Peterson) at 2 (JA Ex. 529, D.E. 502-6).



**PLG RESPONSE TO ¶32:** Undisputed that Dr. Barbano authored a specific causation report, but the quotation is missing context from the remainder of the report.

33. Dr. Schwarz, a neurologist, opined on general causation stating, “[b]ased upon my review and understanding of the scientific literature on Parkinson’s disease, it is my professional opinion, to reasonable degree of medical certainty as a neurologist and movement disorder specialist, it is more likely than not there is a causal relationship between exposure to TCE and PD.” Schwarz Rep. (Sparks) at 7 (JA Ex. 533, D.E. 502-10); Schwarz Rep. (Welch) at 8 (JA Ex. 534, D.E. 502-11).

**PLG RESPONSE TO ¶33:** Dr. Schwarz did not independently opine on general causation, and the Plaintiffs are not relying on Dr. Schwarz’s opinions for general causation. Defendant’s inaccurate claim is premised on Dr. Schwarz’s agreement with Plaintiffs’ general causation experts and independent review of sources underlying and relating to those experts’ opinions.

34. Dr. Schwarz opined on specific causation that “[M]r. Welch’s Parkinson’s disease is at least as likely as not due to his exposure to TCE at Camp Lejeune.” Schwarz Rep. (Welch) at 2 (JA Ex. 534, D.E. 502-11).

**PLG RESPONSE TO ¶34:** Undisputed that Dr. Schwarz authored a specific causation report, but the quotation is missing context from the remainder of the report.

35. Dr. Schwarz opined on specific causation that “Mr. Sparks’ Parkinson’s disease is more likely than not due to his exposure to TCE at Camp Lejeune.” Schwarz Rep. (Sparks) at 2 (JA Ex. 533, D.E. 502-10).

**PLG RESPONSE TO ¶35:** Undisputed that Dr. Schwarz authored a specific causation report, but the quotation is missing context from the remainder of the report.

36. Dr. Reynolds, an exposure scientist, estimated the cumulative consumption values of VOCs for each of the five PD bellwether Plaintiffs. Reynolds Rep. at 6–7 (JA Ex. 569, D.E. 506-2).

**PLG RESPONSE TO ¶36:** Undisputed.

37. Dr. Reynolds did not opine on the cause of the bellwether Plaintiffs’ specific illnesses. *See id.* at 2 (defining scope of assignment as “reconstructing potential water ingestion models for Marines and civilians who worked and/or lived at Marine Corps base Camp Lejeune during the period of water contamination between 1953 and 1987”).

**PLG RESPONSE TO ¶37:** Undisputed.

38. Plaintiffs have not submitted other expert reports on the issue of general causation and PD or the specific cause of the above-captioned Plaintiffs’ PD. *See generally*, App’x Exhibit 1, Feb. 7, 2025 PLG Phase III; Disclosure PLG Phase II Exp. Discl. at 5-6 (JA Ex. 63, D.E. 463-2).

**PLG RESPONSE TO ¶38:** Undisputed.

**D. The United States’ Motions to Exclude Plaintiffs’ Proffered Expert Testimony**

39. On September 10, 2025, the United States filed several motions to exclude the general and specific causation expert testimony proffered by Plaintiffs in support of their CLJA claims.

a. The opinions of Drs. Cannon, Boehme, Freeman, Costa, and Miller, to the extent they used the “at least as likely as not” legal standard when purportedly conducting their general causation analyses, are inadmissible under Rule 704 (because it is impermissible opinion

testimony stating a legal standard and drawing a legal conclusion) and Rule 702 (because it relaxes, for litigation purposes, the scientific standards that are otherwise applied in epidemiology, toxicology, or related fields). See United States' Motion to Exclude Certain Plaintiffs' General Causation Experts' Testimony Utilizing the "At Least As Likely As Not" Standard, D.E. 539.

b. The opinions of Drs. Bird, Cannon, Boehme, Miller, De Miranda, Costa, and Freeman are inadmissible under FRE 702 because each used unreliable methods to conduct their literature reviews. See United States' Motion to Exclude Plaintiffs' Parkinson's Disease Experts Drs. Steven Bird, Jason Cannon, Amelia Boehme, Gary Miller, Briana De Miranda, Lucio Costa, and Michael Freeman ("Unreliable PD Literature Reviews"), D.E. 541.

c. The opinions of Drs. Miller and Costa regarding a threshold TCE exposure necessary to cause PD are inadmissible under FRE 702 because they are based on an impermissible analytical gap and unreliable methodology. See United States' Motion to Exclude Certain Opinions of Drs. Gary Miller, Lucio Costa, and Richard Barbano, ("Unreliable Exposure Opinions"), D.E. 547.

d. The opinion of Dr. Barbano that Mr. McElhiney's and Mr. Peterson's PD was at least as likely as not caused by their exposure to water at Camp Lejeune is inadmissible under FRE 702 because he employed unreliable methods regarding his exposure and specific causation opinions. See United States' Motion to Exclude the Certain Opinions of Gary Miller, Lucio Costa, and Richard Barbano, ("Unreliable Exposure Opinions"), D.E. 547.

e. The general causation opinions of Drs. Barbano, Schwarz, and Andruska are inadmissible under FRE 702 because they conducted unreliable literature reviews and applied the "at least as likely as not" legal standard to a scientific question. Their general causation

opinions are also inadmissible as untimely under this Court's orders. See United States' Motion to Exclude the General and Specific Causation Opinions of Drs. Richard Barbano, Heidi Schwarz, and Kristin Andruska, ("Inadmissible Phase III PD Opinions"), D.E. 543.

f. The specific causation opinions of Drs. Barbano, Schwarz, and Andruska are inadmissible under FRE 702 because each expert failed to consider important factors that cut against their conclusions, including alternative risk factors. See United States' Motion to Exclude the General and Specific Causation Opinions of Drs. Richard Barbano, Heidi Schwarz, and Kristin Andruska ("Inadmissible Phase III PD Opinions"), D.E. 543.

g. The opinions of Drs. Cannon, Boehme, Freeman, Costa, Bird, De Miranda, Miller, Andruska, Schwarz, and Barbano that PCE can cause PD is inadmissible under FRE 702 as they are unsupported by scientific literature and methods. See United States' Motion to Exclude Certain Opinions of Plaintiffs' Parkinson's Disease Experts Drs. Jason Cannon, Amelia Boehme, Michael Freeman, Lucio Costa, Steven Bird, Briana De Miranda, Gary Miller, Kristin Andruska, Heidi Schwarz, and Richard Barbano ("Unreliable Opinions That Perchloroethylene (PCE) Can Cause Parkinson's Disease"), D.E. 545.

**PLG RESPONSE TO ¶39:** Plaintiffs are opposing Defendant's Motions and dispute Defendant's statements here for the reasons explained in Plaintiffs' concurrently filed opposition briefs.

*[Signature appear on the following page.]*

DATED this 10th day of November, 2025.

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